C L A I M S

1. A method for parameter independent buffer underrun prevention in a data communication system comprising a buffer for compensating for a difference in the rate of flow of data having an write port for writing data into said buffer and a read port for reading data from said buffer, said method comprising the steps of:

starting to write data into said buffer;

waiting for a predetermined delay time;

starting to read data from said buffer after said delay time has passed;

determining the length of a time gap between the completion of writing data into said buffer and completion of reading data from said buffer;

decreasing the length of said predetermined delay time by a first value if the length of said time gap is larger than a specified tolerance value.

2. The method according to claim 1, further comprising the step of increasing the length of said predetermined delay time by a second value if the length of said time gap is smaller than said specified tolerance value.

3. The method according to claim 2, further comprising the step of storing the decreased or increased length of said predetermined delay.

4. The method according to claim 3, wherein in said data communication system data packets of varying size are written into and read from said buffer, the method further comprising the steps of classifying said data packets according to their size into different packet classes and selecting a designated predetermined delay time for said particular packet class.

5. The method according to claim 4, wherein in said data communication system writing said data into said buffer is interrupted by a specified number of breaks of a known maximal length and wherein said tolerance value is larger than the sum of the lengths of said specified number of breaks.

6. The method according to claim 5, wherein said determining the length of said time gap includes correcting the length of said time gap by the total length of said breaks that occurred during writing data into said buffer.

7. The method according to claim 6, further comprising the step of writing dummy data into said buffer in the case said data communication system is idle.

8. The method according to claim 7, wherein determining the length of said time gap includes generating a signal that occurs a specified number of cycles before all data are read from said buffer.

9. The method according to claim 8, wherein said specified number of cycles correspond to the tolerance value.

10. The method according to claim 9, wherein the condition whether or not said time gap is larger than said specified tolerance value is determined by detecting whether or not the signal occurs after the completion of writing into said buffer or while said writing into said buffer is still going on.

11. A device for parameter independent buffer underrun prevention in a data communication system comprising a buffer for compensating for a difference in the rate of flow of data having an write port for writing data into

said buffer and a read port for reading data from said buffer, said device comprising:

a memory unit for storing a predetermined delay time,

a counter for measuring said predetermined delay time,

a signal generator for generating a signal enabling read access to said buffer after said delay time has passed,

means for determining the length of a time gap between the completion of writing data into said buffer and completion of reading data from said buffer,

a computing unit for decreasing the length of said predetermined delay time by a first value if the length of said time gap is larger than a specified tolerance value.

12. The device according to claim 11, wherein said computing unit increases the length of said predetermined delay time by a second value if the length of said time gap is smaller than said specified tolerance value.

13. The device according to claim 12, further comprising means for storing the decreased or increased length of said predetermined delay in said memory unit.

14. The device according to claim 13, wherein in said data communication system data packets of varying size are written into and read from said buffer and said data packets are classified according to their size into different packet classes, the device further comprising a first input port for receiving a class signal specifying said particular packet class and additional memory units for storing a designated predetermined delay time for each packet class.

15. The device according to claim 14, further comprising a second input port for receiving an end-of-read signal signaling the instant of time when only a specified number of cycles are left before all data are read from said buffer.

16. The device according to claim 15, further comprising a third input port for receiving a write signal signaling when data are written into said buffer.

17. The device according to claim 16, wherein said means for determining the length of said time gap between the completion of writing data into said buffer and completion of reading data from said buffer is formed by a logical unit determining whether or not said end-of-read signal occurs while said write signal is still signaling that data are written into said buffer.

18. A computer Programm product, on a computer usable medium, for parameter independent buffer underrun prevention in a data communication system buffer for compensating for a difference in the rate of flow of data having an write port for writing data into said buffer and a read port for reading data from said buffer, said method comprising the steps of:

software code for starting to write data into said buffer;

software code for waiting for a predetermined delay time;

software code for starting to read data from said buffer after said delay time has passed;

software code for determining the length of a time gap between the completion of writing data into said buffer and completion of reading data from said buffer;

software code for decreasing the length of said predetermined delay time by a first value if the length of said time gap is larger than a specified tolerance value.

19. The comuter Programm product according to claim 18, further comprising software for increasing the length of said predetermined delay time by a second value if the length of said time gap is smaller than said specified tolerance value.

20. The computer Programm product according to claim 19, further comprising software for storing the decreased or increased length of said predetermined delay.

21. The computer Programm product according to claim 20 wherein, in said data communication system, data packets of varying size are written into and read from said buffer and the computer Programm product includes software for classifying said data packets according to their size into different packet classes and selecting a designated predetermined delay time for said particular packet class.

22. The computer Programm product according to claim 21, wherein in said data communication system writing said data into said buffer is interrupted by a specified number of breaks of a known maximal length and wherein said tolerance value is larger than the sum of the lengths of said specified number of breaks.

23. The computer Programm product according to claim 22, wherein said determining the length of said time gap includes correcting the length of said time gap by the total length of said breaks that occurred during writing data into said buffer.

24. The computer Programm product according to claim 23, further comprising the step of writing dummy data into said buffer in the case said data communication system is idle.

25. The computer Programm product according to claim 24, wherein determining the length of said time gap includes generating a signal that occurs a specified number of cycles before all data are read from said buffer.

26. The computer Programm product according to claim 25, wherein said specified number of cycles correspond to the tolerance value.

27. The computer Programm product according to claim 26, wherein the condition whether or not said time gap is larger than said specified tolerance value is determined by detecting whether or not the signal occurs after the completion of writing into said buffer or while said writing into said buffer is still going on.